

CITY OF RIVERSIDE

12/19/05

HUMAN RESOURCES DEPARTMENT

Revised

CLASSIFICATION SPECIFICATION

TITLE: UTILITIES ASSOCIATE ELECTRICAL ENGINEER
UTILITIES ELECTRICAL ENGINEER
UTILITIES SENIOR ELECTRICAL ENGINEER

DEFINITION

Under general supervision, to perform supervisory and professional electrical engineering work in the design, investigation and construction of electric utility projects; and to do related work as required. As incumbents progress through this job series, projects become considerably more technically demanding and may involve direct supervisory responsibilities and duties.

DISTINGUISHING CHARACTERISTICS

Work in this class series ranges from elementary, entry-level technical work to complex professional electric utility engineering work. Lead or direct supervision may be exercised over lower level engineers, technicians and aides. The three levels of performance in this class series may be distinguished by the following standards.

REPORTS TO: Utilities Senior Electrical Engineers report to Utilities Principal Electrical Engineers. Utilities Associate Electrical Engineers and Utilities Electrical Engineers report to Utilities Senior Electrical Engineers.

SUPERVISION RECEIVED AND EXERCISED**Utilities Associate Electrical Engineer**

This is the entry level class in the professional electrical engineering series. Incumbents in this class perform the less complex professional engineering work under close supervision. Incumbents within this class decides and acts within strict limits of approved plans, programs, budgets, policies, standards, and established procedures. All deviations require prior approval.

Utilities Electrical Engineer

Positions in this class are normally filled by advancement from the lower class of Utilities Associate Electrical Engineer, or when filled from the outside, require prior advanced technical or professional engineering work experience. A Utilities Electrical Engineer works under general supervision and is expected to complete complex engineering assignments requiring the use of judgment and initiative in developing solutions to problems, interpreting general policies and determining work assignments. Work in this class is distinguished from that of the Utilities Associate Electrical Engineer class by the greater complexity of the assignments received and by the greater independence with which an incumbent is expected to operate.

Utilities Senior Electrical Engineer

This is the top level in this electrical engineering series. Work is at the highest level of engineering and may involve the direct supervision of professional and technical personnel. Assignments are general and of a continuing nature, requiring the exercise of independent judgment and initiative in scheduling, assigning and coordinating the work with that of other units. Incumbents are also expected to perform the most complex professional engineering work, requiring a substantial level of professional training and experience.

EXAMPLES OF DUTIES

Typical duties may include, but are not limited to, the following:

Utilities Associate Electrical Engineer

- Perform studies of technical, environmental and economic feasibility, engineering field studies, and related studies pertaining to proposed and existing system facilities.
- Prepare contracts and specifications for engineering and construction services. Plan and perform own work and completes special projects requiring engineering and technical ability as assigned.
- Provide background information and documentation for management consideration on various projects.
- Make sound decisions on minor problems related to the work being performed based on established guidelines and principles and supervisor guidance.

Utilities Electrical Engineer

- Plan and perform their work and complete special projects requiring advanced engineering and technical ability. This responsibility includes such projects as:
 - a. Update written directives for their department and for use by other employees to include:
 - (1) Engineering Guidelines
 - (2) Standard Material Lists
 - (3) Standard Specifications
 - (4) Technical and administrative policies and procedures
 - b. Research activities pertaining to new and failed materials, engineering and construction practices.
 - c. Economic, loading, load flow and project justification reports.
 - d. Other directives as required.
- Develop large engineering projects and other engineering projects that may have special problems which have an important effect on other significant utility projects.
- Provide background information and documentation for management consideration on major projects and technical matters involving engineering theories, concepts and principles.
- Make sound decisions independently on minor technical problems and methods related to the work being performed. Acts in an advisory capacity to other engineering personnel of limited experience.

Utilities Senior Electrical Engineer

- Perform complex studies of technical, environmental and economic feasibility, engineering field studies and related studies pertaining to proposed and existing system facilities.
- Plan their own work and the work of others. Complete special projects that are frequently long and complex, requiring advanced engineering and technical ability. The projects often involve new, innovative and original ideas. This responsibility includes such projects as:
 - a. Develop and update written directives for their department and for use by other employees to include:
 - (1) Engineering Guidelines
 - (2) Standard Material Lists
 - (3) Standard Specifications
 - (4) Other technical and administrative policies and procedures as appropriate
 - b. Research activities pertaining to new and failed materials, engineering and construction practices.
 - c. Economic, loading, load flow, and project justification reports.
 - d. Other directives as required.

- Develop major engineering projects and other engineering projects with unique problems which have an important effect on other major utility projects.
- Provide background information and documentation for management consideration on major projects and technical matters involving advanced engineering theories, concepts and principles.
- Work with other engineering personnel of limited experience in an advisory capacity or supervisory capacity.
- Make sound decisions independently on technical problems and methods related to the work being performed.

QUALIFICATIONS

Knowledge of:

- Principles and practices of electrical engineering and other engineering disciplines used in the electric utility industry.
- Modern methods and techniques used in the design and construction of a wide variety of electrical utility projects.
- Modern developments, current literature and sources of information regarding electrical engineering.
- Applicable laws and regulatory codes relevant to design and construction of electric utility facilities.
- Principles of supervision, training and performance evaluation.
- Technical report writing.
- Computers and computer programs.

Ability to:

- Make complex engineering computations and to check, design and supervise the construction of a wide variety of electric utility facilities.
- Communicate clearly and concisely, orally and in writing.
- Supervise, train and evaluate professional and technical subordinates.
- Apply technical insight and sound judgment necessary in the solution of difficult and complex problems.
- Apply theoretical concepts to practical problems.
- Complete projects which require extensive research of current and past technical literature and the resolving of real or apparent conflicting conclusions. For these projects, guidelines may frequently require considerable interpretation and adaption in order to fit the kinds of situations encountered.
- Use and apply engineering economic principles.

Education and Experience:

Any combination of experience and education that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Utilities Associate Electrical Engineer

Education: Graduation with a bachelor's degree in electrical engineering from a college or university with an accredited four or five year degree program, in electrical engineering. Registration as a Professional Engineer cannot substitute for the required education.

Experience: This is the entry-level position for an electrical engineer with their degree. An Engineer-in-Training Certificate is highly desirable.

Utilities Electrical Engineer

Education: Graduation with a bachelor's degree in electrical engineering from a college or university with an accredited four or five year degree program, in electrical engineering. A bachelor's degree in civil or mechanical engineering from a college or university with an accredited four or five year degree program with two additional year's experience doing professional electric utility engineering can substitute for an electrical engineering degree. The completion of post-graduate courses related to electric utility engineering is highly desirable. Registration as a Professional Engineer cannot substitute for the required education.

Experience: Three year's experience in professional electric utility engineering work comparable to that of Utilities Associate Electrical Engineer in the City of Riverside Electric Utility. An Engineer-in-Training Certificate is highly desirable.

Utilities Senior Electrical Engineer

Education: Graduation with a bachelor's degree in electrical engineering from a college or university with an accredited four or five year degree program in electrical engineering. A bachelor's degree in civil or mechanical engineering from a college or university with an accredited four or five year degree program and two additional year's of experience doing professional electric utility engineering can substitute for an electrical engineering degree. The completion of post-graduate courses related to electric utility engineering is highly desirable. Registration as a Professional Engineer cannot substitute for the required education.

Experience: Four year's experience in professional electric utility engineering work comparable to that of Utilities Associate Electrical Engineer in the City of Riverside Electric Utility. Registration in California as a Professional Engineer is highly desirable or may be required as a matter of law, depending of the assigned responsibilities.

MEDICAL CATEGORY: Group 1

NECESSARY SPECIAL REQUIREMENT

Possession of an appropriate, valid class "C" California Motor Vehicle Operator's License.

CAREER ADVANCEMENT OPPORTUNITIES

Incumbents in this class series may expect to advance to the next level when the department confirms that the incumbent is completely performing at the performance standard of the higher level position and educational and experience requirements have been obtained.

FROM: Utilities Associate Electrical Engineer

TO: Utilities Electrical Engineer

Utilities Senior Electrical Engineer

Utilities Principal Electrical Engineer